

**MODERN METHODS OF TESTING MILK AND MILK PRODUCTS; A HANDBOOK PREPARED FOR THE USE OF DAIRY STUDENTS, BUTTER MAKERS, CHEESE MAKERS, PRODUCERS OF MILK, OPERATORS IN CONDENSERIES, MANAGERS OF MILK-SHIPPING STATIONS, MILK INSPECTORS, PHYSICIANS, ETC.**

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Modern methods of testing milk and milk products; a handbook prepared for the use of dairy students, butter makers, cheese makers, producers of milk, operators in condenseries, managers of milk-shipping stations, milk inspectors, physicians, etc. by Lucius L. Van Slyke

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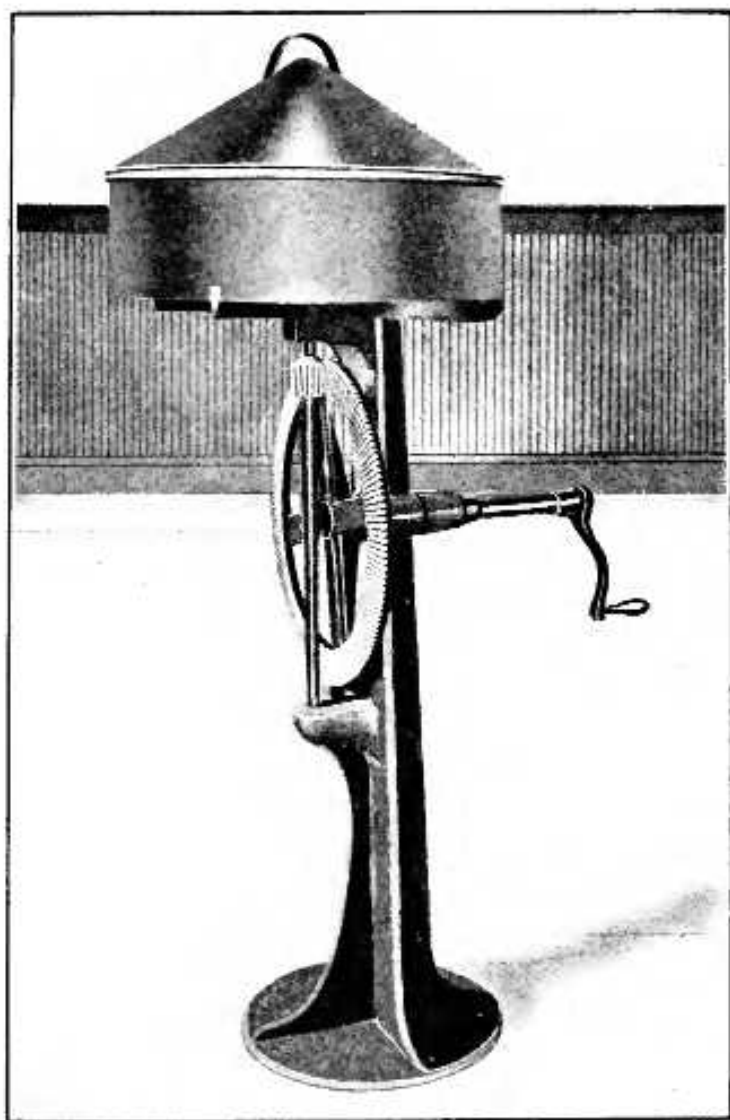
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**LUCIUS L. VAN SLYKE**

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THE ORIGINAL BABCOCK TESTER

# Modern Methods of Testing Milk *and* Milk Products

A HANDBOOK PREPARED FOR THE USE OF DAIRY STUDENTS, BUTTER MAKERS, CHEESE MAKERS, PRODUCERS OF MILK, OPERATORS IN CONDENSERIES, MANAGERS OF MILK-SHIPPING STATIONS, MILK-INSPECTORS, PHYSICIANS, ETC. . . . .

By

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## PREFACE

To attain the highest degree of success in the production of milk and in the manufacture of its products, it has become essential to acquire some knowledge of the methods of testing milk and milk products. The application of these methods to dairying has resulted in lifting the dairy industry to a higher plane of intelligence, and in effecting changes of great economic importance, among which may be briefly mentioned: (1) Greater justice rendered milk producers in paying for milk according to its quality. (2) Prevention of large losses, once very common, in the manufacture of butter and cheese. (3) Improvement of methods of manufacture through better control of details. (4) Increase of yield of products made from a given amount of milk. (5) Improvement in the uniformity and quality of manufactured dairy products.

This little book has been prepared for the use of dairy students, cheese-makers, butter-makers, producers of milk, operators in condenseries, managers of shipping-stations, milk-inspectors, and others interested. Physicians who are specialists in infant-feeding will find the book useful in testing human milk as well as cows' milk that is modified or to be modified.

No previous chemical training is required for operating successfully the methods described. Any intelligent person who can labor with painstaking patience and appreciate the value of attention to little details should be able to master these methods with a rea-



sonable amount of work. The assistance of a trained teacher will, of course, make the task easier. No one, whatever his educational preparation, can hope to use these or any similar methods successfully who can not or will not follow instructions accurately and exercise patience in mastering every minute detail.

In the preparation of this work, the writer has tried to keep in mind the following points: (1) Accuracy, simplicity and clearness of statement. (2) Making prominent, as far as practicable, the reasons for each step in each process. (3) Emphasis of common difficulties and instructions for overcoming them. (4) Impressing students with the necessity of precision and care in performing every detail given. (5) Selection of the methods approved by experience. (6) Avoidance of such technical methods as require unusual skill or equipment. (7) Omission of unnecessary details. (8) Embodiment of the results of the most recent investigations. (9) The special needs of those for whose use the work is designed.

The scope of this work is far from exhaustive, but the methods selected are given with necessary completeness. Chemical methods, requiring elaborate equipment and extended special training, are purposely omitted. Any one desiring a full description of such methods can obtain it by addressing a request to the U. S. Department of Agriculture, Bureau of Chemistry, Washington, D. C., asking for a copy of "Methods of Analysis adopted by the Association of Official Agricultural Chemists."

The methods that have been compiled here are in large measure the direct result of the work of our

agricultural experiment stations, and afford some indication of the direction and value of the work done by these institutions.

In the preparation of Chapter XIV, valuable assistance has been kindly rendered by Mr. George A. Smith, Dairy Expert of this station.

L. L. VAN SLYKE.

*New York Agricultural  
Experiment Station, 1906.*

